

Table B. Output per hour, hourly compensation, unit labor costs, and related measures
Manufacturing, 14 countries or areas, 1979-2001

Average annual rates of change¹

Country or area	1979-2001	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001
Output per hour						
United States	3.2	3.5	2.4	3.3	4.5	-0.4
Canada	2.1	3.6	0.5	3.8	1.1	-2.0
Japan	3.5	3.5	4.3	3.3	4.1	-1.6
Korea	NA	NA	8.2	9.7	11.1	3.2
Taiwan	5.9	5.1	7.9	5.3	5.5	6.3
Belgium	3.6	6.0	2.2	3.2	3.3	1.2
Denmark	NA	2.4	0.7	NA	NA	NA
France	4.2	5.1	3.2	4.0	4.6	2.8
Germany ²	2.4	2.1	2.1	3.3	2.4	1.4
Italy	2.2	3.5	1.9	2.4	0.9	1.7
Netherlands	3.2	4.4	2.3	3.7	2.6	0.4
Norway	1.3	2.4	1.4	0.6	0.7	0.8
Sweden	4.3	3.1	1.9	5.7	7.8	0.0
United Kingdom	3.6	4.4	4.6	3.3	2.3	1.3
Output						
United States	2.5	2.2	2.5	3.1	4.3	-6.0
Canada	2.4	2.0	1.8	2.4	4.5	-3.3
Japan	2.7	4.7	4.8	0.4	2.0	-4.9
Korea	8.9	8.3	12.2	8.4	8.1	1.7
Taiwan	6.0	8.2	7.0	5.0	5.7	-5.7
Belgium	2.2	2.6	2.5	0.6	3.2	0.3
Denmark	1.4	2.3	-0.6	1.7	1.7	4.7
France	2.1	1.6	2.5	1.1	3.4	1.7
Germany ²	0.7	0.2	2.3	-0.7	0.9	0.6
Italy	1.6	0.9	3.2	1.5	1.2	0.7
Netherlands	2.3	1.8	3.2	1.9	2.7	0.2
Norway	0.1	0.6	-1.6	1.2	0.5	-1.2
Sweden	3.4	2.2	1.4	3.7	7.7	-2.4
United Kingdom	0.7	-1.2	3.4	0.4	1.0	-2.4

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Country or area	1979-2001	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001
Total hours						
United States	-0.7	-1.2	0.0	-0.1	-0.2	-5.6
Canada	0.3	-1.5	1.3	-1.3	3.4	-1.4
Japan	-0.9	1.1	0.5	-2.8	-2.0	-3.4
Korea	NA	NA	3.7	-1.2	-2.7	-1.5
Taiwan	0.0	2.9	-0.8	-0.3	0.2	-11.3
Belgium	-1.4	-3.2	0.4	-2.5	-0.1	-1.0
Denmark	NA	-0.1	-1.3	NA	NA	NA
France	-2.0	-3.3	-0.7	-2.7	-1.1	-1.0
Germany ²	-1.7	-1.9	0.2	-3.9	-1.5	-0.8
Italy	-0.6	-2.5	1.3	-0.9	0.3	-1.0
Netherlands	-0.9	-2.5	0.9	-1.7	0.0	-0.2
Norway	-1.2	-1.8	-2.9	0.6	-0.2	-2.0
Sweden	-0.9	-0.8	-0.5	-1.9	-0.1	-2.4
United Kingdom	-2.8	-5.3	-1.2	-2.8	-1.3	-3.6
Employment						
United States	-0.8	-1.4	-0.1	-0.6	-0.1	-4.1
Canada	0.2	-1.3	1.2	-1.5	3.0	-0.4
Japan	-0.4	1.2	0.8	-1.6	-1.9	-2.6
Korea	NA	NA	5.4	-0.9	-2.5	0.8
Taiwan	0.8	4.1	-0.5	-0.3	0.5	-4.5
Belgium	-1.4	-2.6	-0.3	-2.2	-0.7	0.1
Denmark	-0.5	0.2	-0.8	-1.2	-0.3	-0.7
France	-1.4	-2.3	-0.8	-2.5	-0.2	1.2
Germany ²	-1.2	-1.1	1.1	-4.2	-0.8	0.4
Italy	-1.0	-2.3	-0.2	-1.8	0.3	0.3
Netherlands	-0.7	-2.2	1.0	-1.6	0.2	-0.1
Norway	-1.1	-1.8	-2.7	0.3	0.1	-1.6
Sweden	-1.4	-1.2	-0.8	-3.5	0.0	-1.0
United Kingdom	-2.6	-4.6	-0.9	-3.1	-1.0	-4.2

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Average annual rates of change¹

Country or area	1979-2001	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001
Average hours						
United States	0.1	0.2	0.1	0.4	-0.1	-1.6
Canada	0.1	-0.2	0.1	0.3	0.4	-1.0
Japan	-0.4	0.0	-0.3	-1.3	-0.1	-0.8
Korea	NA	NA	-1.6	-0.2	-0.1	-2.3
Taiwan	-0.8	-1.1	-0.4	0.0	-0.3	-7.1
Belgium	0.0	-0.6	0.7	-0.3	0.7	-1.1
Denmark	NA	-0.3	-0.5	NA	NA	NA
France	-0.6	-1.1	0.1	-0.2	-0.9	-2.2
Germany ²	-0.6	-0.8	-0.9	0.3	-0.6	-1.2
Italy	0.5	-0.1	1.6	0.9	0.0	-1.3
Netherlands	-0.2	-0.3	-0.2	0.0	-0.2	-0.1
Norway	-0.1	0.0	-0.2	0.3	-0.3	-0.4
Sweden	0.5	0.4	0.3	1.7	-0.1	-1.4
United Kingdom	-0.2	-0.8	-0.3	0.3	-0.3	0.6
Total labor compensation in manufacturing³: National currency basis						
United States	3.9	5.8	3.9	3.4	3.7	-4.2
Canada	5.0	7.5	5.6	2.4	4.9	2.1
Japan	2.5	5.9	5.1	0.7	-1.1	-2.6
Korea	NA	NA	19.9	16.8	4.1	7.0
Taiwan	8.6	15.9	10.6	6.8	4.2	-9.4
Belgium	3.1	4.7	4.0	1.3	1.9	4.1
Denmark	4.9	9.1	4.8	2.3	3.1	3.2
France	3.8	9.0	3.6	1.1	0.8	4.0
Germany ²	3.3	4.0	5.2	2.3	1.6	2.3
Italy	7.1	13.0	8.2	4.0	3.1	2.7
Netherlands	3.1	2.3	3.5	2.8	3.4	4.7
Norway	5.4	8.0	4.7	4.0	4.9	3.3
Sweden	5.8	8.9	7.9	2.0	4.8	0.9
United Kingdom	4.8	6.2	8.1	2.5	3.2	-0.3

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Average annual rates of change¹

Country or area	1979-2001	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001
Hourly compensation³: National currency basis						
United States	4.6	7.2	3.9	3.5	4.0	1.5
Canada	4.7	9.1	4.2	3.7	1.4	3.5
Japan	3.4	4.7	4.6	3.6	1.0	0.7
Korea	NA	NA	15.6	18.2	6.9	8.7
Taiwan	8.6	12.6	11.5	7.1	4.0	2.2
Belgium	4.6	8.1	3.7	3.9	2.0	5.2
Denmark	NA	9.3	6.2	NA	NA	NA
France	5.9	12.7	4.3	3.9	1.9	5.0
Germany ²	5.1	6.0	5.0	6.4	3.1	3.1
Italy	7.7	15.9	6.8	4.9	2.8	3.8
Netherlands	4.0	5.0	2.6	4.5	3.3	4.9
Norway	6.7	10.0	7.8	3.4	5.1	5.4
Sweden	6.7	9.8	8.4	4.0	4.8	3.4
United Kingdom	7.8	12.2	9.4	5.4	4.6	3.4
Unit labor costs: National currency basis						
United States	1.3	3.6	1.4	0.2	-0.5	2.0
Canada	2.6	5.3	3.7	-0.1	0.4	5.5
Japan	-0.1	1.1	0.3	0.3	-3.0	2.4
Korea	NA	NA	6.9	7.8	-3.7	5.2
Taiwan	2.5	7.1	3.4	1.7	-1.5	-3.9
Belgium	0.9	2.0	1.5	0.7	-1.3	3.9
Denmark	3.4	6.7	5.4	0.6	1.4	-1.4
France	1.7	7.3	1.1	-0.1	-2.6	2.2
Germany ²	2.6	3.8	2.8	3.1	0.7	1.7
Italy	5.4	12.0	4.8	2.4	1.9	2.0
Netherlands	0.7	0.5	0.3	0.8	0.7	4.4
Norway	5.3	7.4	6.4	2.8	4.3	4.6
Sweden	2.3	6.5	6.4	-1.6	-2.7	3.4
United Kingdom	4.1	7.5	4.5	2.1	2.2	2.1

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Average annual rates of change¹

Country or area	1979-2001	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001
Unit labor costs: U.S. dollar basis						
United States	1.3	3.6	1.4	0.2	-0.5	2.0
Canada	1.3	2.7	7.0	-3.3	-1.2	1.2
Japan	2.5	-0.3	10.8	9.4	-5.7	-9.2
Korea	NA	NA	11.1	6.0	-10.8	-7.9
Taiwan	2.8	5.3	11.8	2.0	-4.7	-11.2
Belgium	-1.0	-9.3	13.8	3.3	-8.8	0.7
Denmark	1.3	-5.0	17.4	2.7	-5.8	-4.2
France	-0.8	-5.3	11.7	1.7	-9.2	-0.9
Germany ²	1.8	-4.1	15.9	5.6	-6.9	-1.4
Italy	0.9	-2.5	15.1	-3.7	-3.1	-1.1
Netherlands	-0.2	-7.6	13.1	3.4	-7.0	1.3
Norway	2.5	-1.7	13.3	2.5	-2.3	2.4
Sweden	-1.7	-5.2	14.7	-5.2	-7.5	-8.3
United Kingdom	2.3	-1.0	11.4	-0.4	1.3	-3.0
Exchange rates⁴						
United States	—	—	—	—	—	—
Canada	-1.3	-2.5	3.2	-3.2	-1.6	-4.1
Japan	2.7	-1.5	10.5	9.1	-2.7	-11.3
Korea	-4.4	-9.2	3.9	-1.7	-7.3	-12.5
Taiwan	0.3	-1.7	8.2	0.3	-3.3	-7.6
Belgium	-1.9	-11.1	12.2	2.5	-7.6	-3.0
Denmark	-2.1	-11.0	11.4	2.0	-7.1	-2.8
France	-2.4	-11.7	10.5	1.8	-6.8	-3.0
Germany ²	-0.8	-7.6	12.7	2.5	-7.5	-3.0
Italy	-4.3	-12.9	9.8	-6.0	-4.9	-3.0
Netherlands	-0.9	-8.0	12.7	2.6	-7.6	-3.0
Norway	-2.6	-8.4	6.6	-0.3	-6.4	-2.0
Sweden	-3.9	-11.0	7.8	-3.7	-4.9	-11.3
United Kingdom	-1.7	-7.9	6.6	-2.4	-0.8	-5.0

r = revised

NA = not available

¹Rates of change based on the compound rate method.

³Adjusted to include employment taxes that are not compensation to employees but are labor costs to employers.

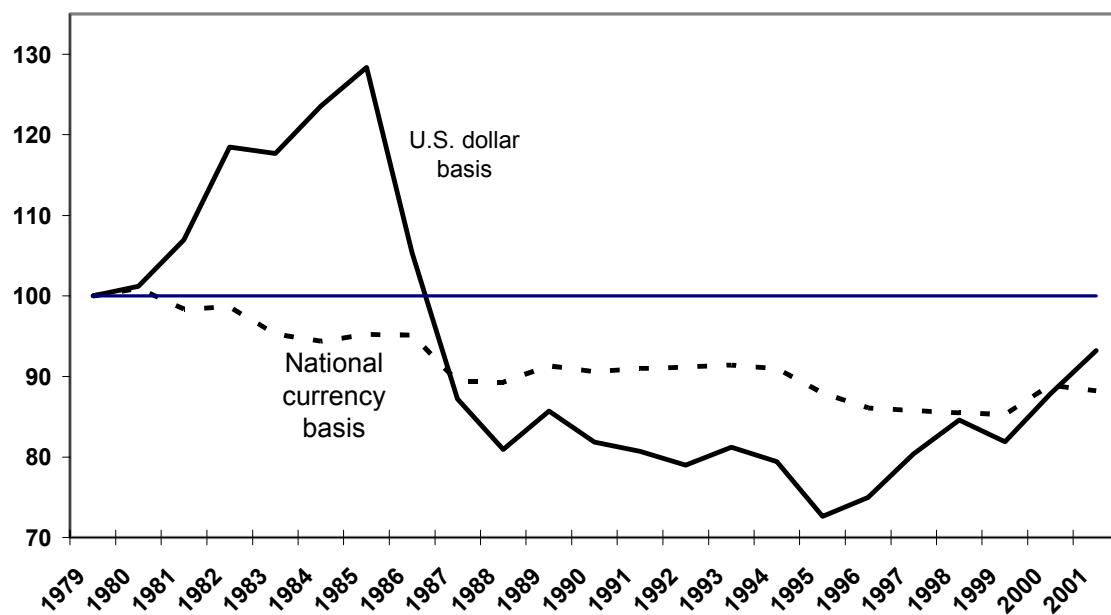
²Data for years before 1991 pertain to the former West Germany.

⁴Value of foreign currency relative to the U.S. dollar.

Trade-weighted unit labor costs

BLS constructs indexes of U.S. unit labor cost trends relative to a trade-weighted average of unit labor cost trends in the other economies to take account of differences in the relative importance of foreign economies to U.S. trade in manufactured goods. Chart 3 begins in 1979, a year in which U.S. manufacturing output reached a business cycle peak.

Chart 3. U.S. manufacturing unit labor costs relative to 12 competitors, 1979-2001
(1979 = 100)



The construction of the trade-weighted indexes is a three-step process. First, the indexes of unit labor costs for all economies are rebased to a common year (in this case, 1979=100). Second, for each year, a "competitors" index is calculated as the weighted geometric mean of the indexes for all competitor economies; the weights reflect each country's importance in terms of U.S. trade in manufactured goods. Finally, the U.S. index number for each year is divided by the "competitors" index number (and multiplied by 100) to obtain a relative ratio of the U.S. to the competitors. This process is used to calculate the relative trade-weighted unit labor cost indexes on both a national currency and a U.S. dollar basis. In this release, the relative U.S. trade-weighted indexes are estimated against 12 economies for which comparable data are available over this period; the indexes underlying this chart are shown in table C.

In chart 3, the solid line indicates that U.S. unit labor costs rose faster than "competitors" costs from 1979 to 1986 on a U.S. dollar basis. In most years from 1986 to 1995, U.S. costs either rose at a slower rate than the "competitors" costs or fell at a faster rate. From 1996 to 1998, however, the strength of the U.S. dollar caused relative U.S. unit labor costs to rise. After a dip in 1999, the index of relative U.S. unit labor costs rose again in 2000 and 2001.

Table C. U.S. manufacturing unit labor costs relative to 12 competitors, 1979-2001

Year	Unit Labor Costs National Currency Basis			Unit Labor Costs U.S. Dollar Basis		
	Own Index	Competitors' Index	Ratio	Own Index	Competitors' Index	Ratio
1979	100.0	100.0	100.0	100.0	100.0	100.0
1980	111.4	110.4	100.9	111.4	110.1	101.2
1981	116.5	118.4	98.4	116.5	108.9	107.0
1982	124.2	126.0	98.6	124.2	104.9	118.5
1983	121.6	127.6	95.3	121.6	103.3	117.7
1984	121.0	128.2	94.4	121.0	97.9	123.5
1985	123.4	129.6	95.2	123.4	96.1	128.4
1986	128.9	135.5	95.1	128.9	122.3	105.4
1987	122.8	137.4	89.4	122.8	140.8	87.2
1988	122.5	137.3	89.3	122.5	151.4	80.9
1989	128.0	140.2	91.3	128.0	149.3	85.7
1990	132.4	146.1	90.6	132.4	161.8	81.8
1991	138.0	151.7	91.0	138.0	171.0	80.7
1992	141.3	155.0	91.2	141.3	179.0	79.0
1993	142.3	155.6	91.4	142.3	175.2	81.2
1994	139.2	153.0	91.0	139.2	175.2	79.4
1995	134.0	152.4	87.9	134.0	184.4	72.6
1996	132.1	153.4	86.1	132.1	176.2	75.0
1997	129.9	151.5	85.8	129.9	161.6	80.4
1998	131.2	153.5	85.5	131.2	155.1	84.6
1999	129.1	151.3	85.3	129.1	157.6	81.9
2000	130.4	146.7	88.9	130.4	148.5	87.8
2001	133.0	150.7	88.2	133.0	142.6	93.2